

Claim 13 (amended): A method of producing a ferroelectric transistor, which comprises:

providing a semiconductor substrate with a surface;

applying, to the surface of the semiconductor substrate, a dielectric layer[[],] and a ferroelectric layer to provide a first intermediate layer, and a first electrode layer;

structuring the first electrode layer and the ferroelectric layer together to produce a first gate electrode, thereby leaving the dielectric layer to provide a second intermediate layer;

applying and structuring a second electrode layer to produce a second gate electrode adjacent and laterally overlapping the first gate electrode; and

providing the first gate electrode and the second gate electrode from materials that are matched to each other in such a way that the first gate electrode and the second gate electrode form a diode structure.

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Claim 14 (original): The method according to claim 13,  
which comprises:

applying an auxiliary layer between the ferroelectric  
layer and the first electrode layer; and

structuring the auxiliary layer when performing the step  
of structuring the ferroelectric layer and the first  
electrode layer.

Claim 15 (original): A method of producing a  
ferroelectric transistor, which comprises:

providing a semiconductor substrate with a surface;

applying, to the surface of the semiconductor substrate,  
a first gate intermediate layer, a ferroelectric layer,  
and a first electrode layer;

structuring the first electrode layer the ferroelectric  
layer, and the first electrode layer together to produce  
a first gate electrode;

producing a second gate intermediate layer disposed  
laterally relative to the first gate intermediate layer;

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providing the second gate intermediate layer with a dielectric layer;

applying and structuring a second electrode layer to produce a second gate electrode adjacent and laterally overlapping the first gate electrode; and

providing the first gate electrode and the second gate electrode from materials that are matched to each other in such a way that the first gate electrode and the second gate electrode form a diode structure.

Claim 16 (original): The method according to claim 15, which comprises:

applying an auxiliary layer between the ferroelectric layer and the first electrode layer; and

structuring the auxiliary layer when performing the step of structuring the ferroelectric layer and the first electrode layer.